SPECIFICATION AMENDMENTS

On page 7, in the Description of the Drawings, at lines 23 – 28, please replace the paragraphs describing Figures 4 and 5 with the following:

Figure ~~4~~ shows in outline form the mathematics of the time domain and frequency domain processing; ~~is an equation used for calculating updated beam forming weights starting with eigenstream beam forming weights to compensate for the port swapping problem;~~

Figure 5 is an equation used for calculating updated beam forming weights starting with eigenstream beam forming weights to compensate for the port swapping problem ~~shows in outline form the mathematics of the time domain and frequency domain processing~~;

On page 8, at line 17, in the Description of the Drawings after the description of Figure 9 and before the description of Figure 10B, insert the following new paragraph:

FIG. 10A shows a time domain signal trace of the signals received on the antenna array shown in Figure 7;

On page 8, at lines 25 - 27, replace the paragraph describing Figure 11 with the following:

~~Figure~~ Figures 11A&B show ~~shows~~ correlation curves obtained using the teaching of the invention with peaks at the angle of arrival direction for the constant modulus, transient signal and the amplitude modulated signal to separate them.

On page 11, please replace the paragraph between lines 15 and 26 with the following:

Figure 1 is a functional block diagram of an adaptive array 10 showing primary system elements that it must possess if it is to successfully achieve two objectives of enhancing desired

signal reception and rejecting undesired interference signals. Adaptive array 10 system consists of an antenna array 11 comprising a plurality of antenna elements 16-1 through 16-Na, a beam forming network 12 comprising a plurality of weighting circuits 17-1 through 17-Na equal to the number of antenna elements 16-1 through ~~16-N~~ 16-Na, a summing circuit 18, and an adaptive pattern control processor 13 that calculates and adjusts the variable beam forming weights for the beam forming network 12. Processor 13 is shown subdivided into a signal processor unit 13a and an adaptive control algorithm 13b. The manner in which these elements 11 – 18 are actually implemented depends on the propagation medium in which the antenna array 11 is to operate and the frequency spectrum of interest.

On page 11, please replace the paragraph between lines 28 and 32 with the following:

The antenna array 11 consists of Na antenna elements 16-1 through ~~16-N~~ 16-na and is designed to receive and transmit signals in a propagation medium of interest. The antenna elements 16 are arranged to give adequate coverage (pattern gain) over a certain desired spatial region. The selection of antenna elements 16 and their physical arrangement place fundamental limitations on the ultimate capability of the adaptive array system 10.

On page 12, please replace the paragraph between lines 25 and 30 with the following:

The voltages V(1,t) through V(Na,t) output respectively from antenna elements 16-1 through ~~16-N~~ 16-Na are input to beam forming weighting circuits 17-1 through ~~17-N~~ 17-Na, and are also carried over leads 22 to signal processor 13a in adaptive pattern control processor 13. Processor 13a operates under control of the copy capture algorithm 13b to process signal 21 incident on antenna array 11 and calculate complex beam forming weights W_e for each signal and for each of the N antenna elements 16 making up antenna array 11.

On page 13, please replace the paragraph between lines 1 and 9 with the following:

The signal V(1,t) through V(Na,t) output from each of the Na antenna elements 16-1 through 16-N is input to a respective one of weighting circuits 17-1 through ~~17-N~~ 17-Na in beam forming network 12 where it is multiplied by an associated one of the aforementioned complex beam forming weights W_e(1,ns) - W_e(Na,ns) calculated for these same signals. The weighted signals output from each of the weighting circuits 17 are summed in summing circuit 18 to form signal CopySigT(ns,t) which is the separated copy stream for each of the signals making up signal 21 that is impinging on antenna array 11. Beam forming network 12 is implemented in software, there is one network 12 for each signal being copied and captured, and there are a set of weights for each signal.

On page 18, please replace the paragraph between lines 29 and 30 with the following:

~~YT(k, it) = B(ns, it) x ([CopyT(ns, it)] / [|CopyT(ns, it)|])~~

YT(ns, it) = B(ns, it) x ([CopyT(ns, it)] / [|CopyT(ns, it)|])

On page 23, please replace the paragraph between lines 16 and 20 with the following:

At block 14, utilizing the well known Wiener – Hopf equation, inverse processing is first performed on each of the copy weights W_e. In block 15 the results of the Wiener – Hopf equation, inverse processing are used to calculate the array steering vector "A_{meas}". In block 23 the array steering vector is used ~~The results are then processed in block 15~~ to determine the angle of arrival ~~(the array steering vector)~~ of each of the individual signals comprising the composite received signal E(m,t). The Wiener – Hopf equation is described in further detail below.